

REMARKS

Claims 1-6 are pending and under consideration in the above-identified application.

In the Final Office Action dated January 26, 2010 the Examiner rejected claims 1-6.

With this Amendment, claims 1 and 4 were amended. No new matter has been introduced as a result of the amendments. Support for the Amendment can be found on at least page 17 of the specification.

I. 35 U.S.C. § 103 Obviousness Rejection of Claims

Claims 1-3 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Sato et al. (U.S. Patent No. 6,710,986) in view of Gill (U.S. Patent No. 6,052,263) and Heim et al. (U.S. Patent No. 5,465,185).

Claims 4-6 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Miyatke et al. (U.S. Patent No. 6,842,361) in view of Sato et al. and Gill et al. and Heim et al.

Applicant respectfully traverses the above listed rejections.

The claims require a magnetoresistive device having an intermediate layer, a first fixed magnetization layer located directly below and in contact with the intermediate layer, a second fixed magnetization layer located below the intermediate layer, and a non-magnetic conductive layer in-between the first and second fixed magnetization layers. The free magnetization layer is an amorphous ferromagnetic material having a composition of $(\text{Co}_{90}\text{Fe}_{10})_{80}\text{B}_{20}$. As a result of the structure embodied by the claims, the magnetoresistive device is capable of satisfying the read characteristic and the write characteristic at the same time.

None of the above cited references teach or even fairly suggest a free magnetization layer an amorphous ferromagnetic material having a composition of $(\text{Co}_{90}\text{Fe}_{10})_{80}\text{B}_{20}$. For example,

Sato et al. teaches that the upper magnetic lay can be a $\text{Co}_{80}\text{FeBSi}$ or a ferromagnetic alloy. Sato et al., Col. 12, lines 18-20. Gill teaches that the free layer includes a sub layer made of $\text{Co}_{90}\text{Fe}_{10}$, but does not teach or even fairly suggest an amorphous ferromagnetic material having a composition of $(\text{Co}_{90}\text{Fe}_{10})_{80}\text{B}_{20}$ as required by the claims. Gill, Col. 6, lines 46-56. Similarly, Heim et al. does not teach the same free magnetization layer as required by the claims because Heim et al. teaches a free magnetization layer made that is made of iron and nickel. Heim et al., Col. 5, lines 5-10. Additionally, Miyatke et al. does not teach or even fairly suggest an amorphous ferromagnetic material having a composition of $(\text{Co}_{90}\text{Fe}_{10})_{80}\text{B}_{20}$ as a free magnetization layer, much less a layered magnetorestrictive device as required by the claims. Miyatke et al., Abstract.

As such, taken either singularly or in combination with each other, the above cited references fail to teach or even fairly suggest all the required elements of the claims. Accordingly, independent claims 1 and 4 are patentable over the above cited references as are dependent claims 2, 3, 5 and 6 for at least the same reasons. Accordingly, Applicant respectfully requests that the above rejection be withdrawn.

II. Conclusion

In view of the above amendments and remarks, Applicant submits that all claims are clearly allowable over the cited prior art, and respectfully requests early and favorable notification to that effect.

| Dated: June 15, 2010

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